

THAT WHICH IS CLAIMED IS:

1. A telecommunications system comprising:
a telecommunications network device having a radio interface and a layered protocol architecture for allowing transfer of upper layer Protocol Data units
5 using a shared medium between a communications unit and the telecommunications network device,
wherein said layered protocol architecture is operative for coding and transferring Protocol Data Units as a plurality of Radio Link Control data blocks
10 that each carry at least one Logical Link Control Protocol Data Unit (LLC PDU) and a data block header that includes a delimiter as a length indicator (LI), wherein any last Logical Link Control Protocol Data Unit of a Radio Link Control data block has no
15 delimiter and when a last Logical Link Control Protocol Data Unit fills the balance of the Radio Link Control data block, the length indicator is zero having no data for a first length indicator in any next in sequence Radio Link Control data block.

2. A telecommunications system according to Claim 1, and further comprising at least one packet data physical channel through which Protocol Data Units are transferred, wherein said layered protocol
5 architecture further comprises a radio resource sublayer for managing the at least one packet data physical channels and managing Radio Link Control and Medium Access Control on the packet data physical channels.

3. A telecommunications system according to Claim 1, wherein said data block header includes a Final Block Indicator (FBI) field to indicate whether

00003363-062701
10/29/93 09:28:20

wherein said layered protocol architecture is operative for coding and transferring Protocol Data Units as a plurality of Radio Link Control data blocks each containing octets numbered from 1 to N2 and each carrying a plurality of Logical Link Control Protocol Data Units (LLC PDU) having user data or upper layers' signaling data and a data block header that includes a delimiter as a length indicator (LI) given in an octet, wherein any last Logical Link Control Protocol Data Unit of a Radio Link Control data block has no delimiter, and when a last Logical Link Control Protocol Data Unit fills the balance of a Radio Link Control data block, the length indicator is zero for a first length indicator in any next in sequence Radio Link Control data block.

10. A telecommunications system according to Claim 9, and further comprising at least one packet data physical channel through Protocol Data Units are transferred, wherein said layered protocol architecture further comprises a radio resource sublayer for managing the at least one packet data physical channel and managing Radio Link Control and Medium Access Control on the packet data physical channels.

11. A telecommunications system according to Claim 9, wherein said data block header includes a Final Block Indicator (FBI) field to indicate whether the Radio Link Control data block is the last data block of a Temporary Block Flow.

12. A telecommunications system according to Claim 11, wherein said Radio Link Control data block further comprises a downlink Radio Link Control data block.

00000000.00000000

13. A telecommunications system according to Claim 9, wherein said data block header includes an extension bit (E) field to indicate the presence of an optional octet in data block header.

14. A telecommunications system according to Claim 9, wherein said data block header includes a More bit (M) field to indicate when another Logical Link Control Protocol Data Unit follows the current one
5 within a Radio Link Control data block.

15. A telecommunications system according to Claim 9, wherein said communications units further comprise at least one mobile unit.

16. A telecommunications system according to Claim 9, wherein said telecommunications network devices further comprise a plurality of base stations.

17. A network device comprising:
a radio interface; and

a layered protocol architecture for allowing transfer of upper layer Protocol Data Units, wherein
5 said layered protocol architecture is operative for coding and transferring Protocol Data Units as a plurality of Radio Link Control data blocks that each carry at least one Logical Link Control Protocol Data Unit (LLC PDU) and a data block header that includes a
10 delimiter as a length indicator (LI), wherein any last Logical Link Control Protocol Data Unit of a Radio Link Control data block has no delimiter, and when a last Logical Link Control Protocol Data Unit fills the balance of a Radio Link Control data block, the length
15 indicator is zero for a first length indicator in any next in sequence Radio Link Control data block.

00000000.00000000

18. A network device according to Claim 17, and further comprising at least one packet data physical channel through which Protocol Data Units are transferred, wherein said layered protocol architecture
- 5 further comprises a radio resource sublayer for managing the at least one packet data physical channel and managing Radio Link Control and Medium Access Control on the packet data physical channel.

19. A network device according to Claim 17, wherein said data block header includes a Final Block Indicator (FBI) field indicative of whether the Radio Link Control data block is the last data block of a
- 5 Temporary Block Flow.

20. A network device according to Claim 19, wherein said Radio Link Control data block further comprises a downlink Radio Link Control data block.

21. A network device according to Claim 17, wherein the data block header includes an extension bit (E) field to indicate the presence of an optional octet in data block header.

22. A network device according to Claim 17, wherein said data block header includes a More bit (M) field to indicate when another Logical Link Control Protocol Data Unit follows the current one within a
- 5 Radio Link Control data block.

23. A network device according to Claim 17, wherein said communications units further comprise at least one mobile unit.

09693363-062701

24. A network device according to Claim 17, wherein said telecommunications network devices further comprise a plurality of base stations.

25. A Radio Link Control data block comprising:

a plurality of Logical Link Control Protocol Data Units (LLC PDU) and a data block header that
5 includes a delimiter as a length indicator (LI), wherein any last Logical Link Control Protocol Data Unit of the Radio Link Control data block has no delimiter and when a last Logical Link Control Protocol
10 data block, the length indicator is zero for a first length indicator in any next in sequence Radio Link Control data block.

26. A Radio Link Control data block according to Claim 25, wherein said data block header includes a Final Block Indicator (FBI) field to indicate whether the Radio Link Control data block is
5 the last data block of a Temporary Block Flow.

27. A Radio Link Control data block according to Claim 26, wherein said Radio Link Control data block further comprises a downlink Radio Link Control data block.

28. A Radio Link Control data block according to Claim 25, wherein data block header includes an extension bit (E) field to indicate the presence of an optional octet in data block header.

00000000-00000000

29. A Radio Link Control data block according to Claim 25, wherein said data block header includes a More bit (M) field to indicate when another Logical Link Control Protocol Data Unit follows the
5 current one within a Radio Link Control data block.

30. A method of delimiting Logical Link Control Protocol Data Units carried within Radio Link Control data blocks comprising the steps of providing no delimiter within any last Logical Link Control
5 Protocol Data Unit and providing a zero value for the length indicator in any next sequence Radio Link Control data block when a last Logical Link Control Protocol Data Unit fills the balance of the Radio Link Control data block.

31. A telecommunications system comprising:
a telecommunications network device having an interface and layered protocol architecture with at least an upper layer and lower layer;
5 a plurality of upper layer Protocol Data Units delimited into a lower layer protocol payload, wherein said layered protocol architecture is operative for coding and transferring Protocol Data Units (PDU) as plurality of data blocks that each carry
10 at least one Protocol Data Unit and a data block header that includes a delimiter as a length indicator (LI), wherein any last Protocol Data Unit of a data block has no delimiter and when a last Protocol Data Unit fills the balance of the data block, the Length Indicator is
15 zero having no data for a first length Indicator in any next in sequence data block.

00003363*062701

32. A telecommunications system according to claim 31 where said interface of said telecommunications network device comprises a radio interface.

33. A telecommunications system according to claim 32 wherein said telecommunications network device comprises a base station.

34. A telecommunications system according to claim 32 wherein said communications unit further comprises at lease one mobile unit.

35. A telecommunications system according to claim 31 and further comprising at least one packet data physical channel through which Protocol Data Units are transferred.

36. A telecommunications system according to claim 31 wherein said upper and lower layer are contiguous within the layered architecture.

37. A telecommunications network device comprising:

- an interface;
- a layered protocol architecture with at least
- 5 an upper layer and lower layer; and
- a plurality of upper layer Protocol Data Units delimited into a lower layer protocol payload,
- wherein said layered protocol architecture is
- operative for coding and transferring Protocol Data
- 10 Units as a plurality of data blocks that each carry at least one Protocol Data Unit, and a data block header that includes a delimiter as a length indicator (LI), wherein any last Protocol Data of a data block has no

0903363.062701

delimiter and when a last Protocol Data Unit fills the balance of the data block, the Length Indicator is zero having no data for a first Length Indicator in any next in sequence data block.

38. A telecommunications network device according to claim 37 wherein said interface of said telecommunications network device comprises a radio interface.

39. A telecommunications network device according to claim 38 wherein said telecommunications network device comprises a base station.

40. A telecommunications network device according to claim 38 wherein said communications unit further comprises at least one mobile unit.

41. A telecommunications network device according to claim 37 and further comprising at least one packet data physical channel through which Protocol Data Units are transferred.

42. A telecommunications network device according to claim 37 wherein said upper and lower layer are contiguous within the layered architecture.

43. A data block for packet communications within a layered architecture having upper and lower layers comprising:

a plurality of Protocol Data Units and a data
5 block header that includes a delimiter as a Length
Indicator (LI), wherein any last Protocol Data Unit of
the data block has no delimiter and when a last
Protocol Data Unit fills the balance of the data block.

the length indicator is zero having no data for a first length indicator in any next sequence data block.

44. A data block according to claim 43 wherein said upper and lower layer are contiguous within the layered architecture.

09893363 062701
10/29/2009